



UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/586,492	06/02/00	WALTHER	S V0077/7134 W

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EXAMINER

STEVENSON, A

ART UNIT

PAPER NUMBER

2812

DATE MAILED:

01/09/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/586,492

Applicant(s)

WALTHER, STEVEN R.

Examiner

Andre' Stevenson

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 1 through 15 and 31 through 34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 16-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) ____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 16 through 30 are rejected under 35 U.S.C. 102(e) as being unpatentable over Denholm et al (U.S. Pat. No.6101971).

Denholm (U.S. Pat. No.6101971), for **Claim #16**, discloses an apparatus comprising of generating an ion beam, determining ion beam reference level, measuring ion beam, adjusting ion implantation based on reference level and beam current, (*figure #6, reference 212 – 228, column 5 lines 24 through 44 & figure #1, reference 180, 214 & 225, column 7 lines 1 through 9*).

With respect to **Claim #17**, a system comprising of, beam generator, a detector, a wafer driver, a controller that receives signals from detector, (*figure #6, reference 212 – 228, column 5 lines 24 through 44 & figure #1, reference 180, 214 & 225, column 7 lines 1 through 9*), Denholm discloses an apparatus wherein a system comprising of, beam generator, a detector, a wafer driver, a controller that receives signals from detector.

Furthermore, **Claim #18**, a apparatus wherein scales the difference value to account for non-line of sight and line of sight charge exchanging collisions, (*figure #1 & 4, reference 160, 170, 185, 190, 195, 212, 214 & 218, column 7 lines 10 through 32*), Denholm, discloses an apparatus wherein scales the difference value to account for non-line of sight and line of sight charge exchanging collisions.

Considering now **Claim #19**, a apparatus wherein difference value is scaled based on ratio, (*figure #1 & 4, reference 160, 170, 185, 190, 195, 212, 214 & 218, column 7 lines 10 through 32*), Denholm discloses an apparatus wherein difference value is scaled based on ratio.

Also, **Claim #20**, an apparatus comprising of a vacuum system, (*figure #6, reference 231, column 5 lines 52 through 54*), Denholm, discloses an apparatus comprising of a vacuum system.

With respect to **Claim #21**, an apparatus wherein detector is Faraday cup, (*figure #1, column 7 lines 1 & 2*), Denholm discloses an apparatus wherein detector is Faraday cup.

Furthermore, **Claim #22**, an apparatus wherein beam generator includes an angle corrector magnet, (*figure #6, reference 72 – 92, column 7 lines 29 through 38 & figure #9, reference 228 & 229, column 5 lines 66 through 67 &, column 6 lines 1 through 8*), Denholm, discloses an apparatus wherein beam generator includes an angle corrector magnet.

Considering now **Claim #23**, an apparatus wherein ion beam current reference value is determined based on ion beam current measured while vacuum level is stable,

(figure #6, reference 214 – 233, column 5 lines 34 through 64), Denholm discloses an apparatus wherein ion beam current reference value is determined based on ion beam current measured while vacuum level is stable.

Furthermore, **Claim #24**, an apparatus wherein beam current reference value retrieved by controller, (figure #6, column 6 lines 2 through 8 & lines 23 through 27), Denholm, discloses an apparatus wherein beam current reference value is retrieved by controller.

Considering now **Claim #25**, an apparatus wherein controller detects vacuum fluctuation based on a difference value between ion beam current reference value, (figure #1 & 6, reference 14, 30, 60 & 62, column 8 lines 8 through 30), Denholm discloses an apparatus wherein controller detects vacuum fluctuation based on a difference value between ion beam current reference value.

Also, **Claim #26**, an apparatus wherein controller adjust ion implantation parameter in addition to the wafer scan rate, (figure #1 & 6, reference 14, 30, 60, 62 & 66, column 8 lines 8 through 30 & figure #6, reference 195, 360 & 367, column 9 lines 25 through 38), Denholm, discloses an apparatus wherein controller adjust ion implantation parameter in addition to the wafer scan rate.

With respect to **Claim #27**, an apparatus wherein controller adjusts a wafer scan rate, (figure #1, 5 & 6, reference 175, 270, 310, 320, 340 & 350, column 9 lines 7 through 24), Denholm discloses an apparatus wherein controller adjusts a wafer scan rate.

Furthermore, **Claim #28**, an apparatus wherein controller adjusts a wafer scan rate and beam rate based on two scale factors, (*figure #1, 5 & 6, reference 175, 270, 310, 320, 340 & 350, column 9 lines 7 through 24*), Denholm, discloses an apparatus wherein controller adjusts a wafer scan rate and beam rate based on two scale factors.

Considering now **Claim #29**, an apparatus wherein controller adjusts wafer scan rate using scale factor, (*figure #1, 5 & 6, reference 175, 270, 310, 320, 340 & 350, column 9 lines 7 through 24*), Denholm discloses an apparatus wherein controller adjusts wafer scan rate using scale factor.

Furthermore, **Claim #30**, an apparatus wherein controller uses a scale factor that has been determined based on calculated beam path length neutral particle density products obtained, (*figure #1, 5 & 6, reference 175, 270, 310, 320, 340 & 350, column 9 lines 7 through 24 & figure #6, reference 14, 60 & 62, column 8 lines 18 through 30*), Denholm, discloses an apparatus wherein controller uses scale factor that has been determined based on calculated beam path length neutral particle density products obtained.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre' Stevenson whose telephone number is (703) 308 6227. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:30 pm.

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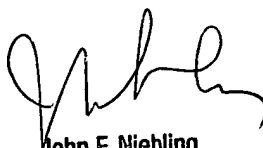
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling, can be reached on (703) 308 3325. The fax phone number for the organization where this application or proceeding is assigned is (703) 308 7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

Andre' Stevenson

Art Unit 2812

1/03/01


John F. Niebling
Supervisory Patent Examiner
Technology Center 2800